

## Human Resources Management Strategy To Attract Workers (A Study Case In Pekalongan Batik Cluster SMES)

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**Abstract.** *SMEs (Small and Medium Enterprises), including batik (traditional Indonesian technique for decorating fabric using wax-resist dyeing) SMEs, significantly contribute to GDP and employment in Indonesia. Pekalongan regency is one of the centers of batik production and development in Indonesia, which occurs through interconnected SMEs, commonly called clusters. Currently, batik cluster SMEs in Pekalongan do not have a competitive advantage in the market, characterized by declining sales, inability to meet consumer demand, errors in the production process, low technology absorption, and lack of innovation. One of the causes of this situation is the declining interest of workers in employment at batik SMEs. Therefore, there must be an effort to increase worker interest to create a competitive advantage for batik SMEs in Pekalongan. This study used the soft system methodology (SSM) approach with strategic entrepreneurship as the theoretical framework. The resource persons were 13 owners/managers of batik SMEs in Pekalongan, plus two experts from external SMEs. This research produced a conceptual model of human resources management strategies from stakeholders to increase workers' interest in batik SMEs in Pekalongan by intensifying batik artists regeneration efforts through revitalizing batik tourism in Pekalongan. Such efforts involve vocational schools for batik, intensifying batik content in the media, creating national/international batik events, formulating WSS (Wage Structure and Scale) for workers, and improving and standardizing workers' competencies.*

**Keywords:** *Batik, competitive advantage, SME, soft system methodology, worker attraction.*

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Introduction

Indonesia is currently ranked 75th out of 166 countries in the world, with a score of 70.2 in achieving the United Nations Sustainable Development Goals (SDGs). The SDGs represent a universal call to action to end poverty, protect the planet, and ensure that everyone enjoys peace and prosperity. One of the targets in SDGs is “Decent Work and Economic Growth”, as listed in point 8. Economic growth is an indicator that shows the progress or success of a country in carrying out development, as measured by GDP (Picardo, 2021). Thus, countries try to maximize GDP when making macroeconomic policies to achieve high economic growth rates (Divya & Devi, 2014).

As shown in Figure 1, Indonesia is lagging behind Singapore, Brunei Darussalam, Malaysia, and Thailand. Therefore, Indonesia's economic growth rate must be increased. Additionally, labor absorption in Indonesia is also not optimal; the percentage of the working population in the Indonesian labor force is 94.7% (BPS, 2024b). Meanwhile, the unemployment rate in ASEAN countries such as Malaysia, Singapore, and Thailand only ranges from 1 to 3.5% (International Monetary Fund, 2025).

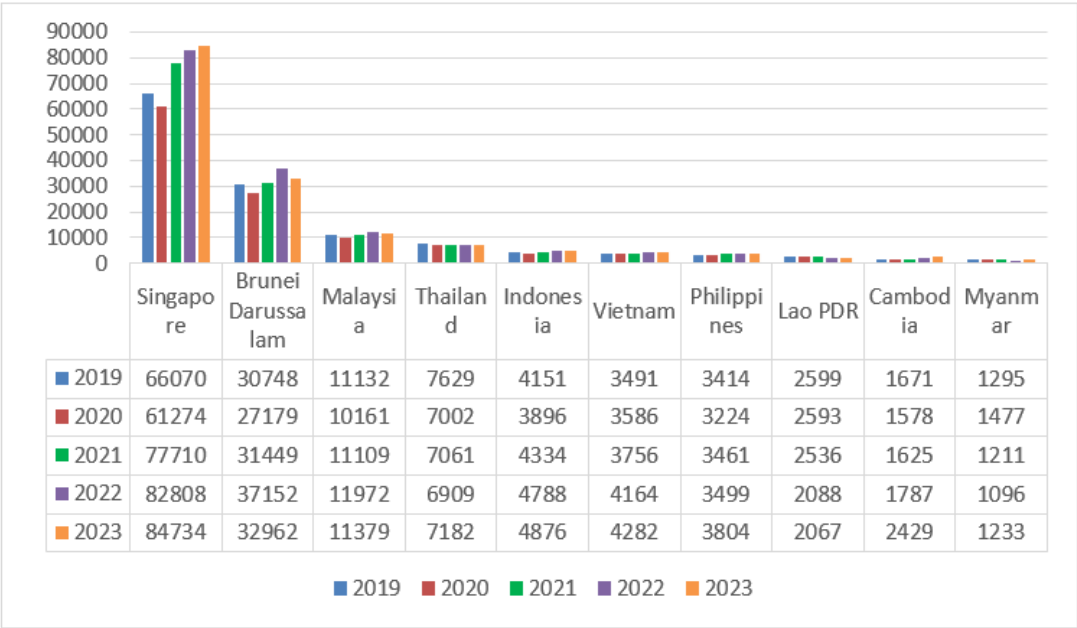


Figure 1. Comparison of the GDP per Capita of ASEAN Countries from 2019 to 2023 (in US\$)  
Source: (World Bank, 2025)

MSMEs (Micro, small, and medium enterprises (MSMEs) serve a significant role in the achievement of the SDGs, especially for targets 8.1.1 "Real growth in annual GDP per capita" and 8.2.1 "Real growth in annual GDP per working person" (United Nations, 2020). As shown in Table 1, MSMEs account for 60% of total GDP and contribute 97% of

employment in Indonesia, one of them is the batik industry. The Minister of Industry of the Republic of Indonesia, Agung Gumiwang Kartasasmita, also added that the batik industry must be prioritized for development because it has excellent leverage on national economic growth and has high interest in the global market.

Table 1.  
*Contribution of MSMEs to the Indonesian economy (2015 – 2019)*

| Year | Number of MSMEs | Contribution to GDP |                  | Labor Absorption (%) |
|------|-----------------|---------------------|------------------|----------------------|
|      |                 | Percentage (%)      | In Trillion US\$ |                      |
| 2015 | 59.262.772      | 61,4                | 6.228            | 96,7                 |
| 2016 | 61.651.177      | 59,8                | 7.009            | 97,0                 |
| 2017 | 62.922.617      | 60,9                | 7.820            | 96,8                 |
| 2018 | 64.194.057      | 61,1                | 8.573            | 97,0                 |
| 2019 | 65.465.497      | 60,5                | 9.580            | 96,9                 |

*Source :Kementerian Koperasi dan UMKM (2023)*

Pekalongan is one of Indonesia's batik centers . UNESCO recognized it in 2014 by categorizing Pekalongan as a city that is part of the global creative city network in the crafts and folk-art category. This recognition is due to Pekalongan being the most significant batik production and development center. The batik industry in Indonesia is a traditional textile industry with a rich cultural heritage and significant economic potential.

However, batik cluster SMEs in Pekalongan do not currently have a competitive advantage in the market for the following reasons: many errors in the batik production process; consumer dissatisfaction with batik products

in terms of quality and quantity (Raya et al., 2021), the inability of SMEs to fulfill the required number of consumer orders (Wahyuni et al., 2020), the failure of human resources to absorb technology; and low product innovation (Raya et al., 2021). Additionally, Pekalongan batik sales are currently below the Pekalongan Government's target. Based on data from the Department Cooperatives and UKM of Central Java Province (2023), the government set a USD 100 million target for batik sales . Currently, sales remain below USD 20 million. One cause of the loss of the competitive advantage of batik cluster SMEs in Pekalongan is workers' declining interest in the batik industry.

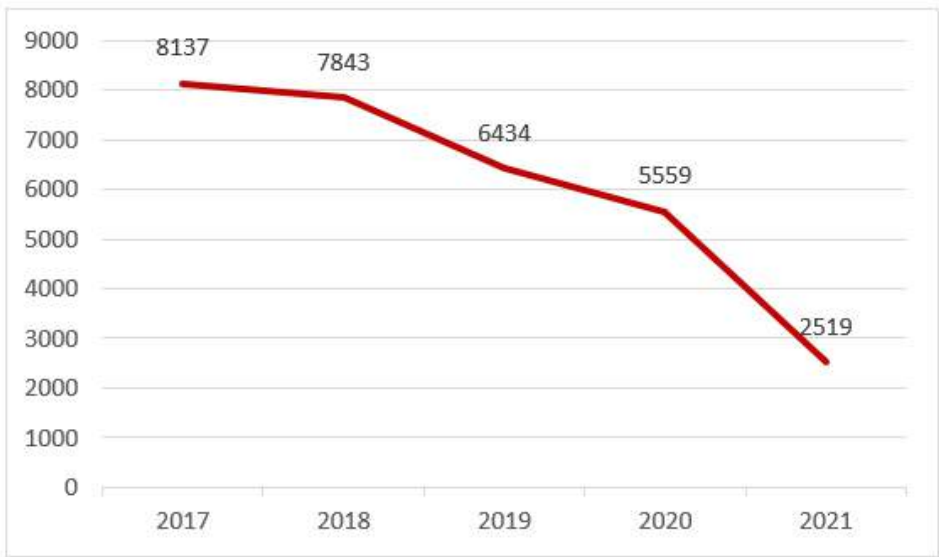


Figure 2.  
Number of workers in batik SMEs  
*Source: Kementerian Perindustrian (2023)*

According to (Raya et al., 2021), the scarcity of human resources experienced by batik cluster SMEs in Pekalongan is due to the following reasons: wages given not being appropriate and not competing with those of other existing industries; no clarity on employment status for workers in batik SMEs; the competencies possessed by workers not in accordance with industry needs; low regeneration efforts. Additionally, the low adoption of technology in batik SMEs also causes many workers to prefer other industries (Shaharuddin et al., 2021).

Batik cluster SMEs in Pekalongan play an essential role in the Indonesian economy. Its development can be a means to accelerate economic growth and reduce unemployment. Hitt et al. (2011) introduced the concept of strategic entrepreneurship that integrates environmental factors, organizational resources, and individual resources to create value and build competitive advantage from its system perspective. Four factors in the diamond concept determine the competitive advantage of an industry (Porter, 1990), namely (1) factor conditions, (2) demand conditions, (3) related and supporting industries, and (4) corporate strategy.

Meanwhile, the system perspective is an approach to explaining something in which all elements are interconnected with each other holistically. The system perspective consists of two types: hard systems and soft systems. A hard system is an approach to thinking that is structured, straightforward, unitary, and simple. Soft systems view a problem as unstructured, complex, and pluralistic (Hardjosoekarto, 2012).

It is necessary to create value and build a competitive advantage by increasing the interest of workers in batik cluster SMEs in Pekalongan. The relationship between environmental factors, organizational resources, and individual resources will be analyzed as a system that affects people's interest in batik cluster SMEs in Pekalongan. Environmental factors will be examined for external factors outside the internal scope that can affect the level of worker attraction in batik cluster SMEs in Pekalongan. Then, organizational resources will be analyzed for internal organizational efforts to make efforts to increase worker attraction. Also, individual resources will be analyzed for the ability of batik cluster SMEs in Pekalongan to take advantage of opportunities and mitigate existing risks to create value and build competitive advantage through increasing worker attraction.

The novelty of this research lies in conducting a co-occurrence analysis of research on the competitive advantage of Batik SMEs from the Scopus database. A total of 26 publications were identified with the help of VOSviewer software version 1.6.19. From the analyzed documents regarding the competitive advantage of batik SMEs, 76 keywords were obtained. The minimum number of occurrences the author used was two. Then, 13 keywords that meet the criteria were obtained. Based on Sudewo (2023), no special provisions govern the minimum number of occurrences in co-occurrence analysis. It is just that the greater the minimum number of occurrences set, the greater the linkage of related keywords in the study, a more significant occurrence value, and a higher total link strength.

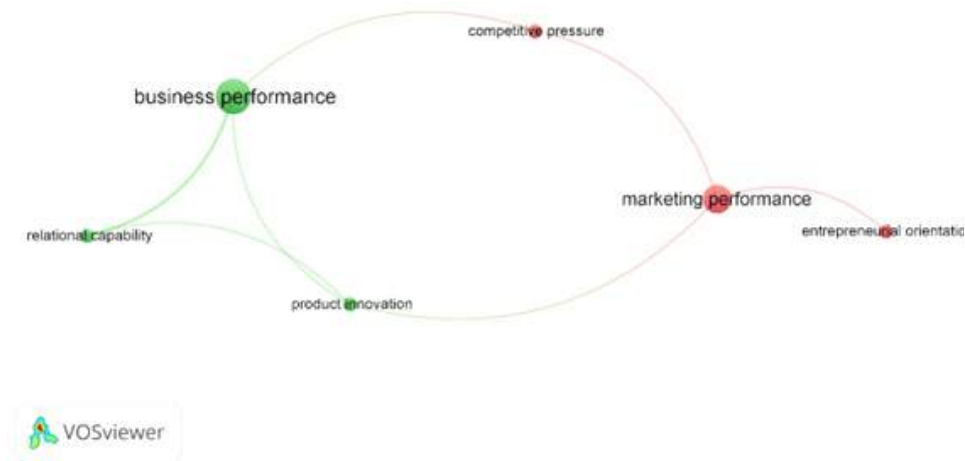


Figure 3.  
Co-occurrence Analysis

As can be seen in Figure 3, the results of network analysis on co-occurrence analysis obtained two clusters of research topics on batik SME performance. Keywords that are widely used in the concept of the competitive advantage of batik SMEs include marketing performance, competitive pressure, entrepreneurial orientation, business performance, product innovation, and relational capability. Therefore, to create novelty in research, conducting a more in-depth analysis of batik SMEs is necessary especially using keywords that have yet to be widely used. Thus, the researcher attempted to enrich the research analysis results by focusing on human resource aspects of the batik cluster SMEs in Pekalongan.

Within the given context, this study defines the research question as follows:

1. What are the causes of low worker attraction to batik cluster SMEs in Pekalongan?
2. How can batik cluster SMEs be developed in Pekalongan through human resource development strategies to increase worker attraction using a strategic entrepreneurship perspective?
3. What are the policies to increase workers' attraction to batik cluster SMEs in Pekalongan?

## Research Methodology

The data used in this study are qualitative. This research used primary and secondary data. Interviews and field observations were conducted to obtain primary data from informants. The interviews were unstructured and contained an outline of the information needed. Moreover, they were developed according to the circumstances in the field. Additionally, primary data collection was also performed by field observation, which was carried out by observing the production and marketing processes of batik SMEs in Pekalongan, starting with batik sketching, waxing, coloring, drying, sewing, and packaging. Meanwhile, secondary data were obtained from literature studies on the batik cluster industry in Pekalongan, from production to marketing, in journals, publications, or books containing theories, previous research, or statistical data that are credible and accountable.

The population of this study amounted to 83 SMEs. The population of this study included 83 SMEs that are legal and nurtured by the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan. The sample was drawn using the method proposed by Gay & Diehl (1992), This formula is used for descriptive research with a minimum size of 10% of the total population.



Table2.  
*List of Research Informant*

| SMEs          |                          |   |                |                   |
|---------------|--------------------------|---|----------------|-------------------|
| No.           | Position                 | SME's Code  | Business Scale | Number of workers |
| 1             | Owner                    | PES   | Medium         | 90                |
| 2             | Production Manager       | WIR   | Medium         | 50                |
| 3             | Business Leader          | MRA   | Medium         | 90                |
| 4             | Owner                    | MRO   | Medium         | 42                |
| 5             | Business Leader          | QOR   | Medium         | 40                |
| 6             | Business Leader          | PFA   | Small          | 40                |
| 7             | Owner                    | MAU   | Small          | 30                |
| 8             | Owner                    | SAG   | Small          | 10                |
| 9             | Owner                    | KOK   | Small          | 18                |
| 10            | Owner                    | ERL   | Small          | 37                |
| 11            | Owner                    | QIR   | Small          | 13                |
| 12            | Owner                    | PJA   | Small          | 21                |
| 13            | Owner                    | BAL   | Small          | 13                |
| External SMEs |                          |   |                |                   |
| No            | Position                 | Institution   |                |                   |
| 1             | Head of Industry Section | The Department of Industry, Trade, Cooperatives, and UKM of Pekalongan Kemplong Batik Village Community |                |                   |
| 2             | Community Leader         |   |                |                   |

The calculation results using the Gay and Diehl method found that eight interviewees were needed as a minimum sample in this study. This study used 15 interviewees from 13 SMEs, plus two external SME experts. This research required the following: (1) the owners/leaders of batik SMEs to obtain information about the development and constraints faced by batik cluster SMEs in Pekalongan related to worker attraction; (2) sources outside the internal scope that can influence the level of worker attraction in batik cluster SMEs in Pekalongan; (3) sources integrated at the macro, meso, and micro levels to observe the relationship of the situation holistically from all influencing parties. Based on these criteria, the informants of this study were determined (see Table 2).

The data developed in this study use a strategic entrepreneurship perspective as a theoretical framework integrated with the soft system methodology (SSM) used as an analytical tool (Figure 4) to formulate the value creation and competitive advantage strategies of the batik cluster SMEs in Pekalongan.

Strategic entrepreneurship is a concept that seeks to maximize the advantages of business units and explore opportunities to compete in the future (El Shiffa et al., 2021). In practice, strategic entrepreneurship combines entrepreneurship and strategic management (Dogan, 2015). Integrating the two concepts is complementary and essential for business units to create a sustainable competitive advantage (El Shiffa et al., 2021). This study uses the strategic entrepreneurship model developed by Hitt et al. (2011). This model consists of three parts, namely (1) input, (2) process, and (3) output. Through strategic entrepreneurship as a theoretical framework, researchers will understand the problematic situation to create value and competitive advantage for batik cluster SMEs in Pekalongan from the perspective of strategic entrepreneurship inputs consisting of environmental factors, organizational resources, and individual resources, as visualized in Figure 4.

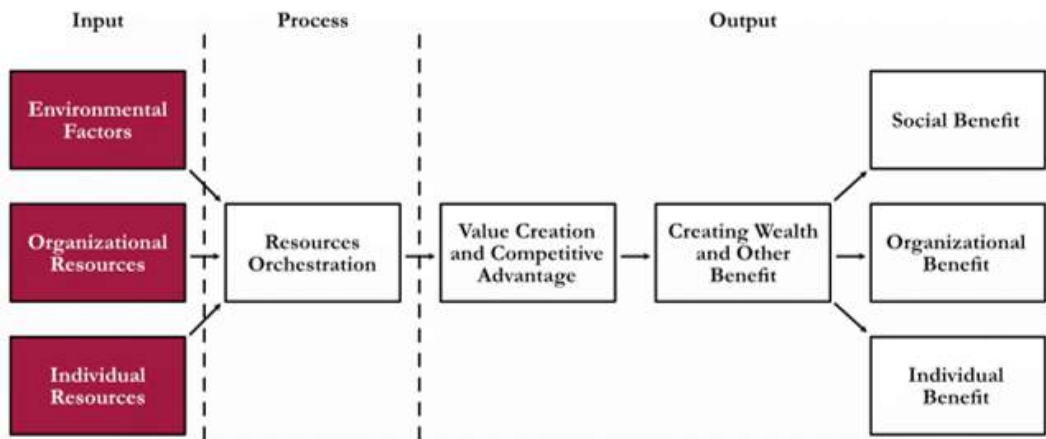


Figure4.  
Strategic Entrepreneurship Framework  
Source : (Hitt et al., 2011)

Meanwhile, the SSM is a holistic qualitative analysis and systematic way of thinking used to improve conditions caused by complex and unstructured problems. SSM is undoubtedly different from linear qualitative analysis methods because it focuses on creating human activity systems models that are thought to represent the real world. Such modeling aims to structure debates in which conflicting goals, needs, objectives, interests, and values can be

uncovered and discussed. As a systems-based methodology for tackling real-world problems, the SSM enables the analyst and participants to understand different perspectives and solve the issue through learning rather than replacing the current situation with an espoused improved ideal. As shown in Figure 5, the SSM is a seven-stage process for improving problematic conditions (Hardjosoekarto, 2012).

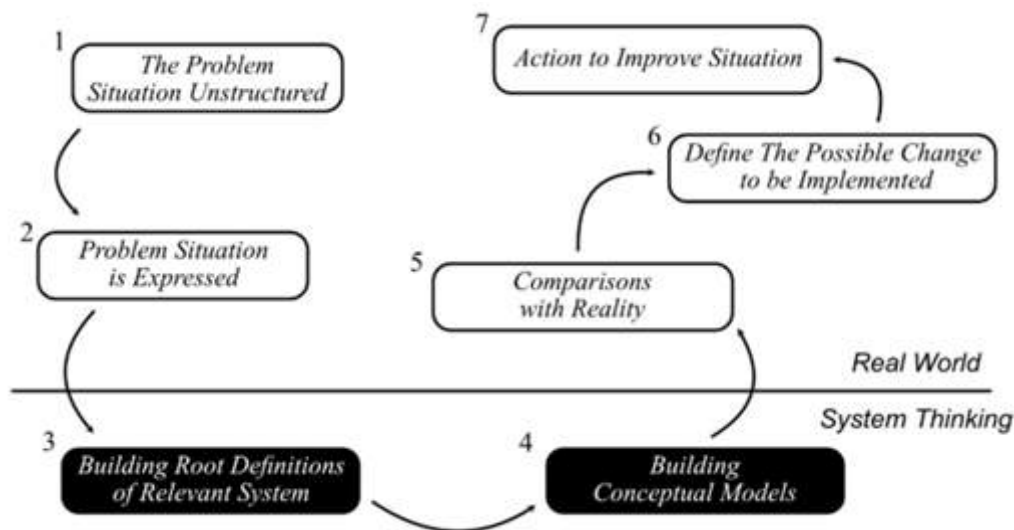


Figure 5.  
Stages of the SSM  
Sources : Checkland et al. (2010)

1. *Stage One - The Problem Situation Unstructured*

The process of identifying the problem to be solved in the object of research.

2. *Stage Two - The Problem Situation is Expressed*

Collecting data and information on the research object is then continued by formulating problems in the form of a rich picture.

3. *Stage Three - Building Root Definitions of a Relevant System.*

This stage seeks to define the problem's root definition based on the previous stage's rich picture. Root definition development uses the CATWOE framework, which is described as follows:

- C (Customers): People/groups of people who will benefit from the transformation process
- A (Actors): The person/group of people who will carry out the transformation process
- T (Transformation): The process of changing inputs into concrete and abstract outputs
- W (Weltanschauung): A point of view that gives root definitions meaning in context
- O (Owners): People/groups of people who have the power to manage the transformation process
- E (Environmental Constraint): Obstacles that can interfere with the transformation process running from the system's external side

4. *Stage Four - Building Conceptual Models.*

Conceptual modeling aims to solve the problems observed in the research object based on the root definition. Conceptual models are generally accompanied by three monitoring criteria (efficacy, efficiency, and effectiveness) and controls.

5. *Stage Five - Comparisons with Reality*

Comparing the model that has been made (conceptual) with the actual existing situation.

6. *Stage Six - Define The Possible Changes to be Implemented*

Analyze and interpret the problematic situation by comparing culturally feasible (stakeholders' agreement to implement the policy) and systemically desirable (sufficient resources to implement the changes) conditions.

7. *Stage Seven - Action to Improve Situation.*

Implement changes that are systematic, desirable, and culturally feasible as a follow-up to improve the situation.

These seven stages of the SSM are divided into two dimensions: the real world and system thinking. The real world contains problematic situations that are used as the basis and objectives of the research. The SSM stages included in this dimension are stages 1, 2, 5, 6, and 7. The system thinking dimension is a stage that involves moving the understanding of the real world into the researcher's mind to carry out the process of analysis and logical thinking related to the problematic situation. The SSM stages included in this dimension are stages 3 and 4.

*Result*

The first phase of SSM-based action research presents a complete picture of worker attrition to batik cluster SMEs in Pekalongan by looking at the issues from various actors perspectives: Client (C), which refers to the party that causes the intervention, role, and objectives in the research; Problem Owner (O), which is the party that has the problem and is related to the problem situation in the real world; Practitioner (P), which refers to the party conducting the SSM research. The aim is to map and assemble a rich picture of the problematic situation. The parties involved in this research are as follows:

1. Client (C): Department of Management, Faculty of Economics and Management, IPB University
2. Practitioner (P): Researcher, Academic Adviser
3. Problem Owner (O):
  - Owner of a batik cluster SME in Pekalongan (Organizational Resources)



- Leaders of batik cluster SMEs in Pekalongan (Organizational Resources)
- Employees/workers of batik cluster SMEs in Pekalongan (Individual Resources)
- The Department of Industry, Trade, Cooperatives, and UKM of Pekalongan (Environmental Factors)
- Kemplong Batik Village Community (Environmental Factors)

The problem owners in this research were categorized based on the input part of the concept of strategic entrepreneurship to create benefits and build a competitive advantage

through increasing worker attraction in batik cluster SMEs in Pekalongan. Social analysis was also performed to identify the actor's' roles, conventions, and values. Therefore, it was necessary to formulate the framework of F, M, A, and P. Researchers with a theoretical framework (F) intend to explore a problem (A) by using the real world (P) as an object of observation (Hardjosoekarto, 2012). The F, M, A, and P framework of this research can be seen in Table 3

Table 3.  
*Research Framework*

| Component                                   | Explanation   |
|---|---|
| F ( <i>Framework</i> )                      | 1. Strategic Entrepreneurship is a concept that seeks to maximize the advantages of business units and explore opportunities to compete in the future (Hitt et al., 2011).<br>2. Advantages achieved by providing more value to consumers can give companies a strong position in the market to fight competitors (Kotler & Armstrong, 2018). |
| M ( <i>Methods</i> )                        | SSM based on action research  |
| A ( <i>Action</i> )                         | Creating a development model to create benefits and build competitive advantage through increased worker attraction in batik cluster SMEs in Pekalongan from a strategic entrepreneurship perspective.  |
| P ( <i>Problem Considered Problematic</i> ) | Low worker interest threatens the existence of batik cluster SMEs in Pekalongan.  |

Regarding environmental factors, the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan serves a role in formulating technical policies. From the environmental factors, the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan serves a role in formulating technical policies. Simultaneously, the Kemplong Batik Village Community acts as a forum for information sharing and a communication link with the government for batik cluster SMEs in Pekalongan. From the side of organizational and individual resources, batik cluster SMEs in Pekalongan are responsible for developing relevant

knowledge, business skills, and marketing capabilities, and improving the product quality of each SME.

Therefore, a political analysis was conducted to identify all stakeholders' dispositions and the nature of power. Regarding environmental factors, the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan can form a regulation through the preparation, formulation, discussion, and finalization phases. Simultaneously, the Kemplong Batik Village Community can influence all its members to conduct a series of- activity systems to create value and competitive

advantage for batik cluster SMEs in Indonesia. From the perspective of organizational and individual resources, batik cluster SMEs in Pekalongan have the right and authority to develop their capabilities, improve product quality, present product innovations, and create price differentiation.

The second stage of SSM involves drawing a rich picture, which is a way of expressing a real-world situation that is considered problematic in the form of a picture that shows all stakeholders and their primary roles and concerns (Hardjosoekarto, 2012). Through the rich picture, the researcher is expected to create a picture of the problematic situation as a whole (Checkland & Poulter, 2006).

The following points were obtained from the analysis conducted in this study by looking at the problematic situation in the field with inductive observation.

1. Government intervention in problematic situations has yet to be felt by batik cluster SMEs in Pekalongan because, to date, it has only focused on technical training in batik product development and assistance in product marketing in the form of exhibitions/bazaars. However, Chapter 38, verses 2, Law number 8 of the the Republic of Indonesia states, "The State shall inventory, safeguard and maintain traditional cultural expressions." This means that government intervention to help batik cluster SMEs in Pekalongan is mandatory.

| Interviewee  | Answer  |
|--|---|
| The Department of Industry, Trade, Cooperatives, and UKM of Pekalongan | <i>"...the assistance we do is like this (while showing documentation on a cell phone). Usually we help to develop products for better quality. Plus we accompany them to the expo in Bali and Jakarta. We from the government are trying to facilitate but it goes back to the willingness of each person, whether they want to or not...."</i>                        |
| PES  | <i>"It is very difficult for batik SMEs to stay in business if they are unable to come up with new innovations that can absorb modern styles."</i>  |
| WIR  | <i>"...I don't know much about this kind of assistance; I just follow the boss..."</i>  |
| MRA  | <i>"...there was assistance from the government at that time for production training in Kajen and to open registration to participate in an exhibition, where I forgot..."</i>  |
| PFA  | <i>"...Most often we are invited to participate in expos like that, the government collaborates with anything. Later, we just have to register and participate, there are many other participants..."</i>   |
| MAU  | <i>"...No sir, maybe we are both angelic, too. But we still hope to be helped by the businesses below..."</i>   |
| SAG  | <i>"I didn't get any help, maybe others got it, maybe not..."</i>   |
| KOK  | <i>"There should be, yes., As a form of responsibility and concern, if I personally don't get it."</i>  |
| ERL  | <i>"Little attention from the government, must be improved"</i>   |
| MRO  | <i>"...My experience is that help doesn't come all the time, right. There must be a period of time, the rest is for us to try and find a solution, ..."</i>   |
| QIR  | <i>"Nothing"</i>  |
| QOR  | <i>"...Maybe there may not be, Alhamdulillah, because my father's business is already quite good. Yes, if the cash assistance is like that, you definitely don't get it because we know that government people are picky too, so that they are not mistargeted. But if I saw it during the COVID yesterday, it seems that the assistance is not evenly distributed"</i> |
| PJA  | <i>"I don't know about that. But for me personally, from then until now there has never been any assistance. I think only a few got it, but I don't know for sure what the information is."</i>   |
| BAL  | <i>"I don't know about the government. Maybe there is, but as long as I am in this business, especially when the economy is difficult like COVID yesterday, I don't get it at all..."</i>   |

2. The innovative culture within SMEs continues to require improvement. In their research, Nurcahyati et al. (2021) stated that fashion products from abroad that entered Indonesia made batik seem old-fashioned. These entrepreneurs succeed in attracting consumers with their products because they match the character of today's consumers.

This is because the innovation skills of batik cluster SMEs in Pekalongan are self- taught, without specific skill development. Thus, batik is considered old-fashioned and needs to keep up with the fashion trends of the times, especially for the younger generation.

| Interviewee  |       |         | Answer  |
|--|-------|---------|---|
| The Department of Industry, Trade, Cooperatives, and UKM of Pekalongan           |       |         | <i>"...the assistance we do is like this (while showing documentation on a cell phone). Usually, we help to develop products for better quality. Plus, we accompany them to the expo in Bali and Jakarta. We from the government are trying to facilitate, but it goes back to the willingness of each person; whether they want to or not."</i>  |
| PES  |       |         | <i>"...the batik makers should understand the problem. But in fact, they have to be guided because if I see from year to year . The innovation is just like that; they understand that they have to make innovations all the time, but the innovation model is repetitive..."</i>   |
| WIR  |       |         | <i>"Definitely, for the customers to get bored. If buyers see the same items every month, they will also get bored. We have to have innovations to attract customers, right?"</i>   |
| MRA  |       |         | <i>"...now I make this, people copy it. What do I want to do,? Who do I want to sue.? It's like that. Let alone the micro ones;; even people with big businesses can't demand this...it can't last. So we're afraid to make anything. We've been thinking for a long time and it's copied. In my opinion, the protection of copyright must be improved. The protection of the intellectual property that we have made should also be the focus of the government..."</i>                              |
| MAU  |       |         | <i>".....If we still adhere to the principle that the goods we make must be different from the products on the market, it is difficult, especially with printed batik. They are fast, use computers, and just print, while we are not. But we still believe that printed products are like photographs, while our products are like paintings. Even though it's long and difficult, it can be more expensive..."</i>  |
| SAG  |       |         | <i>"It is very difficult for batik SMEs to stay in business if they are unable to come up with new innovations that can absorb modern styles."</i>  |
| KOK  |       |         | <i>"The only innovation is from this. Sometimes I add a cartoon picture. The next month, I don't delete it. The next day, I change it again. It's really fast, so we have to be smart to..."</i>  |
| MRO  |       |         | <i>"...We have to innovate every day, from motifs to colors. We also produce different products in one production. There is rarely a repetition of the exact same motif every time..."</i>  |
| QIR  |       |         | <i>"...it is not easy for batik SMEs to nurture fresh ideas so that they can continue to exist in a market that is constantly changing styles...."</i>  |
| QOR  |       |         | <i>"...Whatever it is, there must be a creative touch. Whether it's culinary or handicraft, there has to be a creative touch. Yes, the creative touch is a bit difficult to imitate, the imitation is a bit difficult, not that it can't be done, but it's a bit difficult. When he imitates the goods, he has run out. It's like Chinese goods. He makes a lot of stuff, because he knows it will definitely be copied because he's also a copycat. So we can be superior to the plagiarists..."</i> |
| BAL  |       |         | <i>The obstacle for batik SMEs is their lack of creativity in developing new motifs that are really neat and in line with current market trends.</i>  |
| Kemplong Community   | Batik | Village | <i>"... If it comes to the export market, I and most of us here haven't yet. Just the local market. We have to adjust to changes in the market and what buyers want now, except for Mr. F. He is the top in this batik shop, we usually ask him for input..."</i>   |
| Ministerial Expert Staff for Macroeconomics Ministry of Cooperatives and SMEs RI |       | for     | <i>"Batik industry players in terms of producing batik works must also adjust to the market demand which is currently dominated by young consumers. So they must also follow the fashion trends of young people without leaving the batik art values themselves".</i>   |

3. There is no wage structure and scale (WSS), or known as *struktur skala upah* (SSU) for workers. Batik cluster SMEs in Pekalongan also still need to provide wages by the minimum wages of Pekalongan and Central Java (or known as *upah minimum kota/kabupaten* (UMK) and *upah minimum provinsi* (UMP)) and have yet to be able to

offer salaries that compete with other existing industries, especially in Pekalongan. Providing high compensation will also make workers interested in a job, stay in their career, have a high level of responsibility for their work, be disciplined, and be motivated toward productivity (Farla et al., 2019).

| Interviewee                                  | Answer  |
|--|---|
| Disperindagkop dan UMKM Kabupaten Pekalongan | <i>"...One of the things they don't want to do is like this. It's true that nowadays they don't want to do it. The government only regulates the salary, so they should do it. But in reality, I don't understand. Even though I'm paid below the standard, as long as I agree and there's no conflict, the problem is solved. They must be following the rules..."</i> |
| PES  | <i>"...you saw it yourself, you're already old except for those at the front (of the shop), the girls are still young, but that's just the selling part. The rest rarely want to, most choose to work outside..."</i>   |
| WIR  | <i>"...besides the difficulty of lurune, we don't want to accept more. Yes, if compared, we cannot compete with large industries because the majority are still home industries. It is still difficult for us here to give that much, but we are trying to get there..."</i>  |
| PFA  | <i>"...for us, the marketing part is the most. That's still safe, If it's from production, then maybe yes. But we don't. Each place is different..."</i>  |
| MAU  | <i>"...people nowadays think about money. If you want to work in an batik SME, you have to be paid according to the level of difficulty and the value of the product..."</i>  |
| ERL  | <i>"...for us, the marketing part is the most. That's still safe, If it's from production, then maybe yes. But we don't. Each place is different..."</i>  |
| MRO  | <i>I don't really care about it. The important thing is that it's going well, there's income, there's sales, there's money for food. There must be people who come to us, even though it's not crowded, but there are still people who come to us.</i>  |
| QOR  | <i>"....it's getting really difficult to find workers, especially young people who want to. In my place and the well-known PES place, God willing, it is easy (to be passed down). But for those who are still small, it is a bit troublesome; most of their parents do not advise them to continue. Some of their children don't want to because of the hassle..."</i> |
| Batik Workers on one of the SMEs             | <i>"Honestly, I earn between 600 and 900 thousand a month, 30 thousand per cloth. I can finish every 3 days at the fastest, so I have to look for additional work. Anything I can do, guarding the shop, delivering, the important thing is to make ends meet..."</i>   |

4. Since the competence of workers is low and not standardized, it has a high variance. This statement is in line with the research of Raya et al. (2021), which suggests that the challenge of batik SMEs on the island of Java is incompetent human resources.

This incompetence causes many mistakes during batik production, thereby impacting the final product's quality. Of course, this will lead to customer dissatisfaction with batik products.

| Interviewee | Answer   |
|-------------|--|
| MRA         | <i>"...the obstacle is the difficulty in finding new employees who have the skills and interest to continue to exist in this business. The most common problem is the pay, which is not comparable to other industries..."</i>   |
| SAG         | <i>"...it's safe, I also feel that it's not really difficult because I have permanent and non-permanent employees so there are still many who want it, if other places maybe yes, but here we don't really have problems..."</i>   |
| KOK         | <i>"...there are a lot of people, but the habit of kids now is to be picky. What's good here, what's good there. So if you get it, yes, you'll find it if you look for it. The problem is how competent the workers will be, because the good ones will choose the good places too. So we batik makers have to be smart to attract them here..."</i>   |
| QIR         | <i>"...when I was studying in Jogja, I also discussed the same thing, the point is that there needs to be cooperation between the government and the community to instill a love for batik. You know, kids the same age as you do love. Western (culture), if not Japanese Naruto. Their culture can be liked by outsiders because there is a spread. So they are happy to choose foreign culture over local culture..."</i> |

5. The role of the Kemplong Batik Village Community should be managed better. As stated by Takdir and Hosnan (2021), local communities should play a role in promoting batik art as a valuable cultural asset. However, the activities carried out so far have yet to focus on regeneration.

The Kampung Batik Kemplong Community has excellent potential to introduce batik culture to the local community. This was done by Nindianita and Puspitasari (2017) thorough collaboration with local youth organizations. This activity proved favorable to increasing people's knowledge and interest in local culture.

| Interviewee                      | Answer  |
|----------------------------------|---|
| PES                              | "...I started this business in 1999. During the crisis, Alhamdulillah it developed over time. From there I felt responsible to help the surrounding environment as well." .... Success also means a successful community. But the name of the condition is 'koyok wingi ro ra ono seng ngerti'. This means there should be a need for a community to share and help each other grow..." |
| PFA                              | "If this is the case, just ask Mr. EJ to explain it. He is the chairman; he understands better. I think most of the batik here will also direct you there if you want to ask questions about the batik village community."  |
| Kemplong Batik Village Community | "...it should be like that. In the past the formation of this community was initiated by Mr. F, because he felt responsible for sharing knowledge with his neighbor. But now we are trying to rise together after covid so we are focusing there for now..."  |



Figure6.  
Rich Picture



The third stage of SSM is to determine the Root Definitions used to analyze the transformation process to attract workers. This causes the batik cluster SMEs in Pekalongan to be unable to create value and a competitive advantage. Based on all of the data about the organization that was gathered, examined, and discussed during the earlier SSM process stages, root definitions were developed (Hardjosoekarto, 2012). According to Harman (2020), integrated human resource management methods are necessary, since human resources are critical in mobilizing other resources inside the organization (Vermeeren et al., 2014). One way is the engage, retain, and attract strategy (Kock & Burke, 2008). This study concentrated on the recruiting strategy. It was determined that the root definition of the relevant objective system related to the formulation of a set of solutions to attract workers to batik cluster SMEs in Pekalongan is as follows:

The system is owned and run to fix the problem of worker disinterest in batik cluster SMEs in Pekalongan (P) by standardizing worker competencies, preparing a fair WSS for workers, and increasing efforts to regenerate batik makers (Q) to create value and competitive advantages for batik cluster SMEs in Pekalongan (R). The root definition then had to be analyzed using the CATWOE analysis tool. The CATWOE tool is a reminder (mnemonic) to ensure that the root definition shows a relevant human activity system that we could (Hardjosoekarto, 2012). Table 4 describes the elements of CATWOE analysis consisting of Customers, Actors, Transformation, World View, Owner, and Environmental Constraints.

Table 4.  
*CATWOE Analysis*

|   |   |
|---|---|
| <b>Customers</b>                            | Batik cluster SMEs in Pekalongan  |
| <b>Actors</b>                               | Batik cluster SMEs in Pekalongan, the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan, the Department of Manpower of Pekalongan, the Regional Wage Board, and the Kampung Batik Kemplong Community.              |
| <b>Transformation</b>                       | Develop strategies to attract workers to batik cluster SMEs in Pekalongan through various programs to train and standardize workers' competencies, develop a fair WSS for workers, and increase efforts to regenerate batik makers. |
| <i>Weltansahnung</i><br><b>(World View)</b> | Creating standardized, competent, and prosperous human resources for batik cluster SMEs in Pekalongan and increasing efforts to regenerate batik makers to attract workers to the batik cluster SMEs in Pekalongan.                 |
| <b>Owner</b>                                | Batik cluster SMEs in Pekalongan  |
| <b>Environmental Constraints</b>            | The social, economic, and political situation, as well as the presence of parties that want to avoid the implementation of product innovation to create value and the competitive advantage of batik cluster SMEs in Pekalongan.    |

Furthermore, the fourth step of the SSM is to develop a conceptual model, a method of analyzing activities that must be carried out to

determine what the actors must do to complete the transformation. The conceptual model used in this study presented in Figure 7.

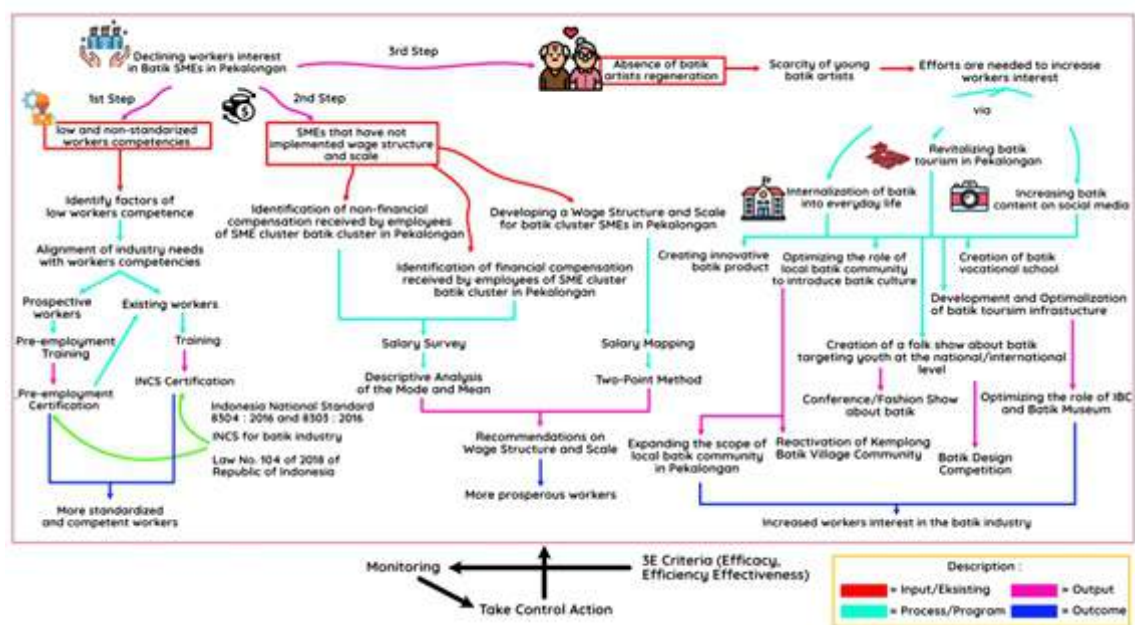


Figure 7.  
Conceptual Model

The conceptual model was constructed based on the root definition formulated in the previous stage. The transformation activities are divided into three major clusters: standardizing worker competencies in batik cluster SMEs in Pekalongan, developing a WSS to achieve internal and external justice for workers, and enhancing batik artists regeneration efforts to address the scarcity of young batik talent. Since all listed activities are

interdependent and tied to one another, keeping an eye on and managing them is crucial to ensure smooth operation and overall success. The success criteria of the conceptual model of root definitions one are assessed based on the 3Es (see Table 5).

Table5.  
3E Criteria

|               |  |
|---------------|--|
| Efficacy      | Batik cluster SME workers in Pekalongan have standardized competencies. They are certified by the Professional Certification Institute (PCI), also known as <i>Lembaga Sertifikasi Profesi</i> (LSP), the formation of WSS that fulfills internal and external justice for workers and increases public interest in the batik industry, especially the younger generation. |
| Efficiency    | Program objectives are achieved with minimum time and cost   |
| Effectiveness | Increased worker interest in the batik industry, improved worker welfare, and increased worker competence and standardization in batik cluster SMEs in Pekalongan.   |

### Discussion

This study aims to generate value and establish a competitive advantage by addressing the challenges faced by various actors within the input factors of strategic entrepreneurship, which serve as the theoretical framework for this research.

The research findings demonstrate that addressing the challenges faced by various actors within the input factors of strategic entrepreneurship can mediate the process of designing a conceptual model within this system, ultimately generating value and establishing a competitive advantage for batik cluster SMEs in Pekalongan. This is referenced in Porter's (1990) theory of corporate competitive advantage, which consists of four elements, namely factor conditions; demand conditions; related and supporting industries; firm strategy, structure, and rivalry. In factor conditions, Porter explains that the company's internal conditions, such as labor, infrastructure, raw materials, and capital owned, need to be considered to achieve competitive advantage. Factor conditions in this conceptual model are the competence of human resources and the welfare of workers at batik cluster SMEs in Pekalongan. Demand conditions emphasize that the company is always oriented toward customers' needs and desires above the idealism of business actors. Demand conditions in this conceptual model are customer requests for batik cluster SMEs in Pekalongan to be able to innovate products, be more aware of environmental issues arising from production waste, and ensure product availability on a digital platform.

Meanwhile, related and supporting industries explain the presence of supporting and related industries that can support the company's operations. The related and supporting industries for the batik cluster SMEs in Pekalongan studied here include tourism and hospitality, education and vocational training, and cultural and creative industries. These were chosen as key supporting industries due to their direct and significant impact on the regeneration of batik artisans and raising

community awareness about batik. Finally, firm strategy, structure, and rivalry explain the national circumstances and context that govern how firms are created, organized, and managed. The nature of domestic competition is regulated by the government as a party that governs and manages the sustainability of batik cluster SMEs in Pekalongan at a macro level. Additionally, this element also explains the government intervention in wage setting as stated in the Ministry of Manpower No. 1 of 2017, Government Regulation No. 7 of 2021, Government Regulation No. 26 of 2021, and Government Regulation No. 35 of 2021. As mentioned, these transformation activities are divided into three major clusters.

#### *1. Standardizing worker competencies*

The main problem possessed by the human resources of batik cluster SMEs in Pekalongan is the need for workers to have more/appropriate competence. No single record states that competencies are not crucial for SMEs. Research indicates that competence at all levels is crucial for SMEs' success and competitiveness (Szczepańska-Woszczyńska, 2014). This statement is in line with the research of Raya et al., (2021), which suggests that a challenge for batik SMEs on the island of Java is incompetent human resources. Incompetence is certainly an obstacle for the batik cluster in Pekalongan. Notably, competence is crucial for the success of batik SMEs and achieving a sustainable competitive advantage. Human resources competencies, particularly skills, significantly affect SME performance (Sulistiyandari et al., 2017). Throughout the batik production process, this ignorance leads to numerous mistakes, which will undoubtedly affect the end product's quality. As stated by Fadhil et al. (2017), HR incompetence will lead to a lack of creativity and innovation, a low intensity of technology use, low productivity, and of course affect product quality.

Increasing competence through training or workshops is the main focus in improving this problematic situation (Sulistiyandari et al., 2017). Notably, it is necessary to align the

competencies needed in the batik industry with the competencies possessed by workers by creating pre-employment programs in the batik industry, intensifying training, and standardizing batik cluster SME workers in Pekalongan through Indonesia National Competency Standards (INCS) certification, also known as *standar kompetensi kerja nasional indonesia* (SKKNI) certification.

Pre-competency development targets job seekers, employees impacted by layoffs, and employees needing competency enhancement. According to Presidential Regulation No. 113 of 2022, this also applies to SMEs. Although training interventions have received less attention in active labor market policy (Clarke, 2014), research indicates that pre-employment training significantly improves employee competency (Mulyono & Meilani, 2016). Also, it was discovered that pre-employment training had a favorable correlation with career opportunities, organizational performance, and employee development (Surya & Khan, 2011). On the other side, intensifying training and standardizing batik cluster SME workers in Pekalongan through INCS certification, also known as SKKNI certification, is intended for existing workers to increase worker retention. The INCS were created to ensure the competence of workers in the informal sector in accordance with the standardization made by the Ministry of Manpower of the Republic of Indonesia (Kemenaker, 2018).

According to Caetano (2017), standardizing competence is essential for boosting organizational capabilities, efficiency, and competitiveness. It enables a number of services, such as self-evaluation, selection procedures, and the clarification of educational and career pathways (Grant & Young, 2010). Scientific discoveries and quick training transformation are facilitated by rigorous comparisons across various contexts and eras made possible by common standards for defining competencies and evaluating performance (Schreiber, 2013).

Reaching an agreement on competence components is crucial to achieving effective interoperability (Grant & Young, 2010). INCS in the batik industry is regulated in the decree of the Minister of Manpower of the Republic of Indonesia No.104 of 2018 concerning the establishment of Indonesian national work competency standards for the processing industry category of the textile industry in the field of batik cloth industry. Therefore, pre-employment instruction about the skills required in the batik sector must be included. For this reason, it is necessary to conduct training by focusing on competencies related to the batik industry. The INCS implementation scheme is presented in Figure 8.

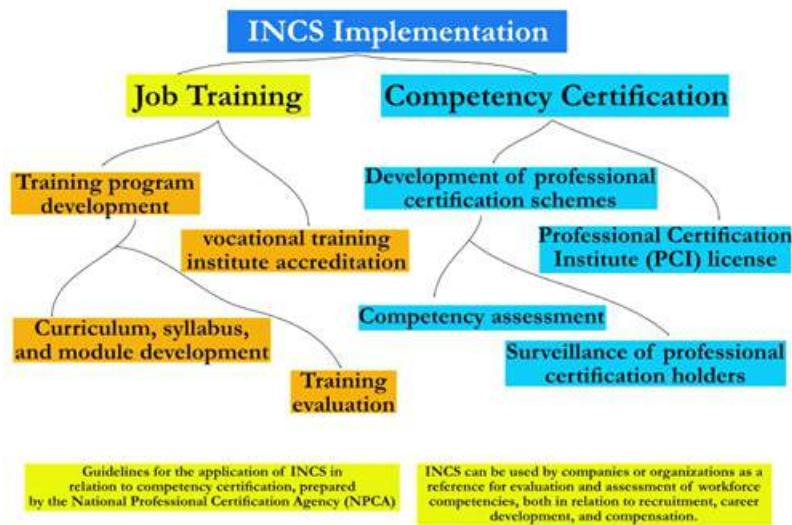


Figure 8.  
INCS Implementation Scheme  
Source: Triyonggo (2016)



As shown in Figure 8, the implementation of the INCS is divided into two parts, training and certification. In overcoming the incompetence of the human resources of batik cluster SMEs in Pekalongan, it is necessary to collaborate between the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan, the Department of Manpower of Pekalongan, the Job Training and Accreditation Institute (known as Lembaga Akreditasi – Lembaga Pelatihan Kerja (LALPK)), the Professional Training Institute (known as Lembaga Diklat Profesi (LDP)), and the Professional Certification Institute (known as Lembaga Sertifikasi Profesi (LSP)) to conduct training and certification for batik cluster SME workers in Pekalongan according to the duties and positions of each worker.

Additionally, it is essential to apply the batik product standards described in the Indonesian National Standards (SNI) 8303:2016 and 8304:2016 regarding written and printed batik. Implementing these standards aims not only to ensure the smooth running of the batik production process but also to standardize the quality of the output. By referring to these standards, batik producers can ensure that each production stage complies with the established guidelines so that the batik products produced are of consistent quality and conform to applicable national standards.

2. Developing WSS

Chapter 1 Article 1, paragraph 30 of Law No.13 of 2003 concerning labor states that wages are the rights of workers who and received in the form of money in exchange for doing something. The wage amount given is determined by the market's supply and demand for labor. Compensation has a broader definition than wages. Compensation is the salary given by the employer to employees for services that have been provided by employees in the form of time, energy, and skills . While wages are only financial rewards, compensation includes financial and non-financial rewards .

Providing high compensation will make workers interested in a job, stay in their career, have a high level of responsibility for their work, be disciplined, and be motivated to continue to be productive . Therefore, companies must provide compensation to achieve internal justice through the 3P principle (pay for person, pay for position, pay for performance), As stated by –, companies that maintain internal justice can keep their staff for longer. Companies also need to provide external justice through strategies to attract, retain, and motivate/engage workers. According to Government Regulation No. 36 of 2021 on wages, employers are prohibited from paying wages lower than the city/district minimum or provincial minimum. Figure 9 shows the prevailing minimum wages of Pekalongan and Central Java, in 2023.

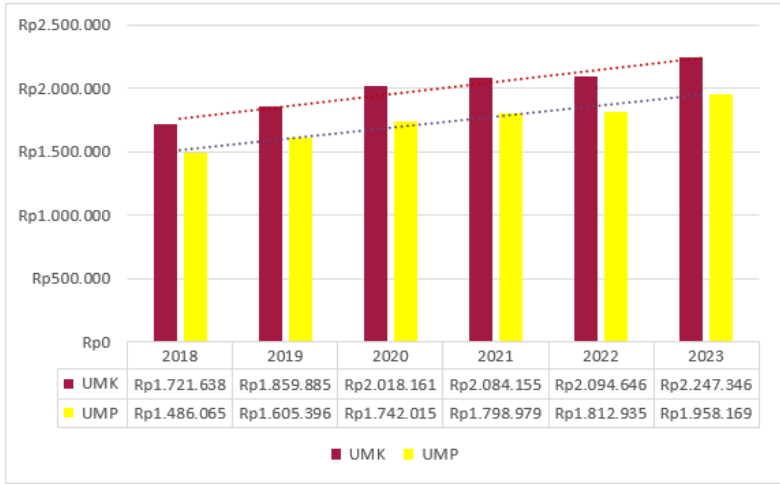


Figure 9.  
Minimum Wage of Pekalongan and Central Java  
Source : (BPS, 2023)



However, in reality, many batik cluster SMEs in Pekalongan still need to provide a minimum wage to their workers. In dealing with this problem, the government through articles 36 to 38 of Government Regulation No. 36 of 2021 provides relief to small businesses to provide wages by the agreement of workers and employers with the provisions of (1) at least 50% of the average consumption of people at the provincial level and (2) 25% above the poverty line at the provincial level. The average consumption and poverty line in Central Java Province are presented in Figure 9.

Although small businesses are not obligated to provide wages per the minimum wages of Pekalongan and Central Java, they must a prepare WSS. If proven not to implement the WSS, sanctions will be applied in the form of (1) a written warning, (2) the restriction of business activities, (3) temporary suspension of part or all of the production equipment, and (4) the suspension of business activities.

Notably, the results from wage WSS research are not entirely consistent. Instead of creating a distinct wage dispensation for SMEs in South Africa, a study suggested enhancing social dialogue and collective bargaining (Hadebe, 2023). Additionally, the study recommended moving away from a "one size fits all" approach to SME policies and establishing independent SMEs representative bodies. Efficiency wages have been shown to boost labor SMEs productivity in Vietnam (Nguyen, 2023). To increase productivity while lowering labor costs, the study advised SMEs to increase worker salaries in line with average sector wages. Although these studies show that wage structures in SMEs have some positive effects, they also show how complicated the problem is and how context-specific solutions are required.

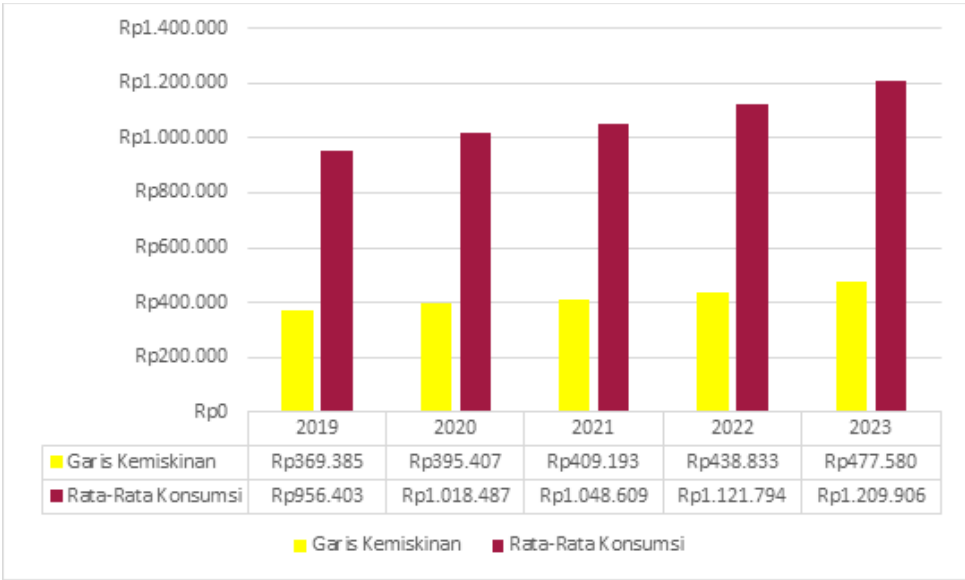


Figure 10.  
Poverty Line and Average Consumption in Central Java Province 2019-2023  
Source : (BPS, 2024a)

It is envisaged that the compensation offered will enable workers to attain both internal and

external justice by establishing a WSS for batik cluster SMEs in Pekalongan (see Figure 11).

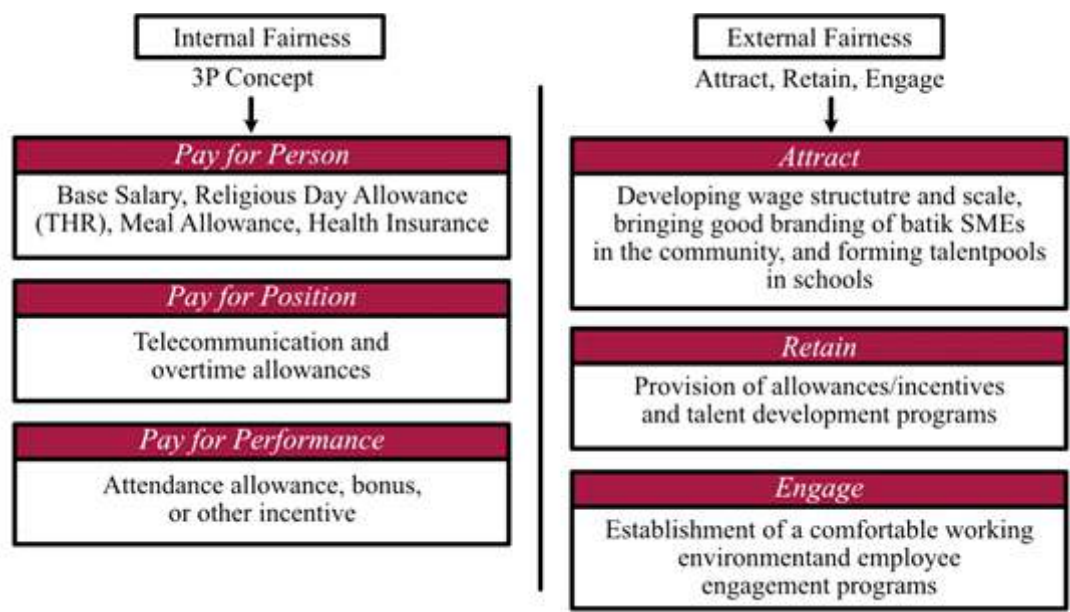


Figure 11. Internal and External Equity Strategy Recommendations on the Structure of the Wage Structure and Scale (WSS)

3. Enhancing Batik Artists Regeneration Efforts

Regeneration can be defined as the intergenerational transfer of leadership and knowledge, aimed at ensuring the continuity and sustainability of a business. Furthermore, regeneration serves to equip businesses with the necessary adaptability to navigate evolving market conditions (Anggakara, 2023). The transmission of knowledge from the older generation to the younger generation provides significant advantages for business development. Younger individuals are often regarded as more adaptable to dynamic market changes and proficient in leveraging technology, which can enhance business innovation and competitiveness (Dana, 2022).

One reason for the low interest of workers in the batik industry is that youth are more interested in foreign cultures, such as Western, Japanese, and Korean cultures. Younger peoples experience these cultures more through various media, such as television, movies, and social media (Wijaya, 2023).

The cultural products of Indonesia, including batik, are less commonly encountered than those of foreign cultures. Additionally, batik is less commonly implemented in daily life. Moreover, batik products needing more innovation is another reasons for the lack of interest in among Indonesian batik. Young people often view their local culture as outdated, preferring Western products (Manurung et al., 2022). Therefore, it is necessary to intensify efforts to introduce and internalize batik in people's lives, especially among the youth, and to develop innovative products using contemporary fashion trends. As stated by El Chaarani et al. (2022), innovation development can positively impact marketing performance, finance, and company exposure. The process of innovative products from batik SMEs can be achieved with a flow logic model approach (see Figure 12).

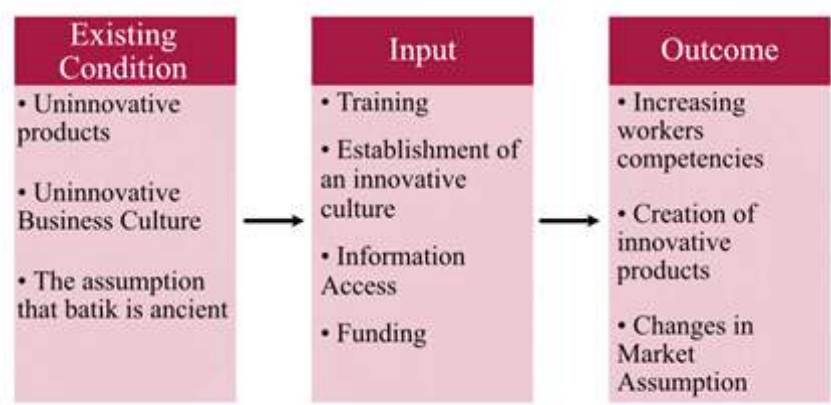


Figure 12.  
Innovation Development Flow Chart

On the other hand, efforts to preserve and develop batik can also be made by developing batik tourism in Pekalongan. Research indicates that guided tours and interactive technologies can effectively enhance young people's understanding and appreciation of cultural heritage (Usta & Gafar, 2022). Conceptually, tourism activities should include the activity sector, space (spatial), and territory. Tourism activities require space in the form of infrastructure in the destination area coupled with supporting activities that can attract the community, especially youth (Takdir & Hosnan, 2021). Tourism development will also drive economic activity (Purwoko, 2019).

Pekalongan has two batik tourism centers, the IBC and the batik museum. Unfortunately, neither tourist center is highly attractive to tourists. This is due to the lack of innovation, maintenance, and low activity from the area manager, as well as the trans-Java toll road, which makes tourists more reluctant to approach the two centers. Thus, there is a need to revitalize batik tourism objects in Pekalongan by applying the community based tourism concept, which involves local communities in tourism development and management. Generally speaking, Pekalongan's development of batik tourism is facilitated by three primary activities:

- Tourism marketing development program: increasing the utilization of information

- technology in tourism marketing and organizing national/international events to introduce and enrich batik experiences (Boukas, 2013).
- Tourism destination revitalization program: Improving visitor support facilities and infrastructure at tourism destinations and preparing a master plan for tourism activities in Pekalongan district '(Kim et al., 2016).
- Tourism partnership development program: involvement of local communities to manage tourism destinations professionally. According to Prasetyono et al. (2019), batik skills training should be expanded to ensure that the outcomes have a positive impact through the graduates' contributions, Thus, it is necessary to create vocational schools that can support a batik artist regeneration effort.

Conclusion

This paper explains the source of the less competitive advantage of why the batik cluster SMEs in Pekalongan lack of competitive advantage: declining worker interest in the batik industry. This is due to low and non-standardized worker competencies, SMEs that have not implemented a WSS, and the absence of batik artists regeneration. Based on the theoretical framework (strategic

entrepreneurship by Hitt et al. (2011) used in this study, improvement of this situation should be focused on the role of each actor in the input section of the theoretical framework used. For the organizational and individual resource elements, batik cluster SMEs in Pekalongan are expected to focus on two things, developing and standardizing the competencies currently possessed by their workers and preparing a WSS. Additionally, batik cluster SMEs in Pekalongan are also expected to present innovative batik products to attract the youth market.

Regarding the environmental factor element, the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan is expected to collaborate with other government officials or private institutions to intensify batik artists regeneration efforts by revitalizing the IBC building and batik museum in the future, intensifying events on a national/international scale, and creating vocational schools for batik. Additionally, the Batik Village Community is expected to intensify regeneration efforts by focusing on expanding the scope of the batik community in Pekalongan and reactivating its functions.

The researchers developed the changes or actions that must be taken by each actor to solve the problem by comparing the conceptual model to the real world. Comparison of the real world and the conceptual system was done through a systematica desirable and culturally feasible system evaluation to determine the possible actions that can be taken. (See Table 6).

Prioritized strategies can be recommended based on the results of this comparison between the real world and the conceptual model for value creation and a competitive advantage for batik cluster SMEs in Pekalongan which can be seen in the following figure.

Strategic recommendations can be divided into three main pillars: intensifying regeneration efforts through revitalizing batik tourism, creating vocational schools for batik, intensifying batik content on social media, and creating batik events on a national/international scale. This pillar is planned to be achieved in the medium to long term (5 – 20 years) because, based on an interview with the head of the trade section of the Department of Industry, Trade, Cooperatives, and UKM of Pekalongan, budget limitations require a longer preparation time than the other two pillars. Then, the second pillar is the preparation of WSS for batik cluster SME workers in Pekalongan. The final pillar is improving and standardizing workers' competencies through pre-employment programs in the batik industry, training, and INCS certification. The priority pillars are the preparation of WSSs and the improvement and standardization of workers' competencies. These two pillars are planned to be achieved in the short term (1 – 5 years).

Table 6.  
*Possible Conceptual Models*

| Core Activity   | Systematically Desirable?   | Culturally Feasible?  | Possible Action?  |
|---|---|---|---|
| Training and standardization of worker competencies for batik cluster SMEs in Pekalongan        | These trainings and certifications will not perfectly match the needs of SMEs, given that similar programs have been conducted by local governments in other regions. This means that these need to be massive and consistent until the problematic situation is eliminated or significantly reduced. | It would be very welcome to SMEs since they have been expecting the government to step in to deal with this problematic situation. However, getting the older ones to understand the material presented and apply it will take extra time and effort. | Additional training and certification are possible. However, it takes time to prepare the budget and training curriculum  |
| Development of WSS for batik cluster SMEs in Pekalongan to achieve internal and external equity | The wages currently received by workers are insufficient to fulfill their needs. This makes youth not interested in the batik industry because other industries offer more significantly higher incomes. Therefore, wage improvement is very much needed  | It takes time to socialize wage increases, government regulations on wages, and WSS preparation to SME owners due to the Javanese people's low level of education and the “shyness” culture.  | The development of WSS for SME clusters in Pekalongan is possible through cooperation between the Department of Manpower of Pekalongan, the Regional Wage Board, academics, and experts.  |
| Introducing and educating youth on batik through tourism activities                             | Batik is an Indonesian cultural product recognized by UNESCO and must be introduced to the younger generation so that it is preserved and developed, since it is certainly not inferior to the products of foreign cultures.  | Culturally it will not collide. It will certainly be necessary to do so because batik is a local indigenous cultural product.   | Revitalizing the IBC and batik museums, both physically and virtually, costs money and time. Hence, it is impossible to do it soon. Moreover, this requires approval from the Regent for the proposals made. However, it would be very positive if realized. Additionally involving the local community in introducing batik to |



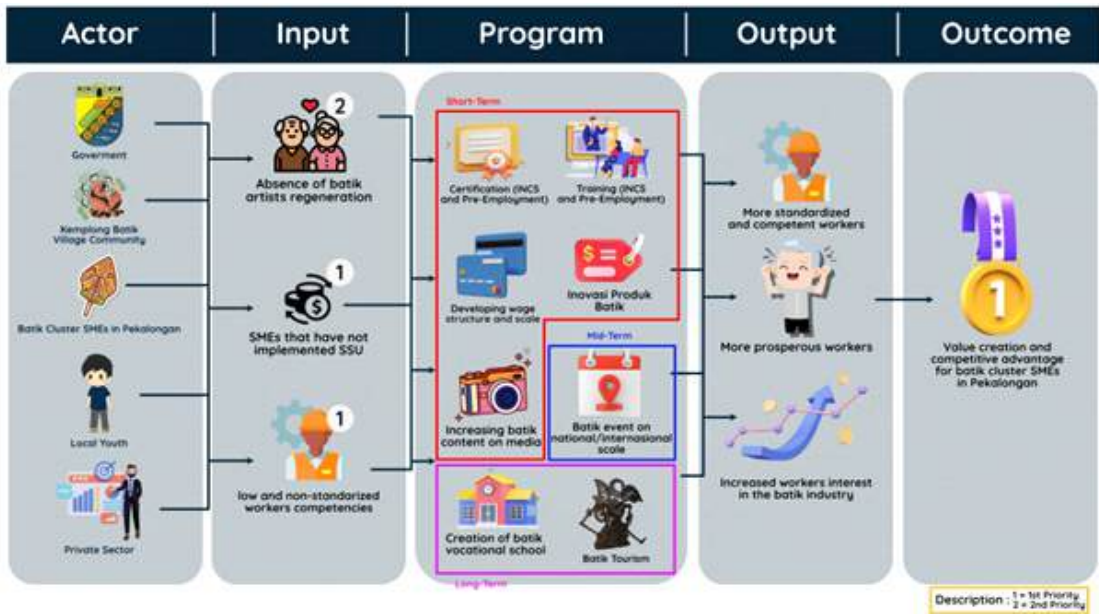


Figure 13.  
Managerial Implication Model

Future Research and Study Limitations

This study contributes to achieving one of the targets in the SDGs, specifically “Decent Work and Economic Growth,” as outlined in point 8, particularly for targets 8.1.1 "Real growth in annual GDP per capita" and 8.2.1 "Real growth in annual GDP per working person." It supports the growth of Batik cluster SMEs in Pekalongan by developing a framework that integrates strategic entrepreneurship theory and the SSM to help these SMEs address the challenge of attracting workers. This enriches the existing body of knowledge on HR strategies for Batik cluster SMEs in Pekalongan and introduces a conceptual model that systematically links organizational resources, individual resources, and environmental factors to enhance worker attraction. From a practical perspective, the findings provide actionable insights for SMEs. The study emphasizes the importance of skills standardization (INCS certification) and pre-employment training programs, which would offer a structured approach to developing skilled workers and improving industry adaptability. Furthermore, by advocating for a WSS, the study highlights the significance of fair compensation in attracting and retaining workers in the batik sector. Additionally, it

stresses the necessity of promoting the regeneration of batik artists through initiatives such as partnerships with vocational schools, revitalizing batik tourism, and hosting national and international batik events to ensure the industry's sustainability for future generations.

This research used a strategic entrepreneurship perspective to create value and a competitive advantage for batik cluster SMEs in Pekalongan. It is recommended to use new institutionalism in economic sociology (NIES) as a research framework to build competitiveness for SMEs, NIES emphasizes the function of social structures, laws, and institutions. NIES can also enhance cultural competency, increase policy relevance, and provide interdisciplinary insights, particularly in the areas of economics, sociology, and strategic management. This can offer more persuasive recommendations for market adaptation, business sustainability, and policy changes.

Furthermore, it is expected that in the future, the recommendations provided in this research will be taken into consideration in making policies, concepts, or tools that are systematically desirable and culturally feasible

for batik cluster SMEs in Pekalongan. To enhance the validity and generalizability of our findings, future research is recommended to incorporate quantitative methods, such as structured surveys or econometric modeling, to complement the qualitative insights and provide more robust data validation across broader respondent samples.

As academic research, this study has several limitations. First, the research relied on a relatively small sample size of 15 interviewees, including 13 SME owners/managers and 2 external experts. Although these participants provided rich qualitative data, the limited sample size may restrict the generalizability of the findings to other regions or industries. Broader and more diverse samples could enhance robustness, such as those involving a broader and more diverse group of stakeholders. Second, this study focused exclusively on the Pekalongan batik cluster, which is a unique cultural and economic context. As such, the applicability of the proposed strategies to other cultural or industrial settings may be limited. Comparative studies involving batik clusters in other regions or similar industries (e.g., in Solo or Yogyakarta) could provide contextual differences, reveal patterns, validate the transferability of the findings, and ensure its broader relevance beyond batik cluster SMEs in Pekalongan. Third, SSM is a qualitative, interpretive approach designed to address complex, unstructured problems in specific contexts. Its focus on recoverability means that the methodology emphasizes tailoring solutions to unique characteristics and perspectives, since the SSM heavily relies on contextual factors, it is inherently non-replicable across different samples or settings. Each implementation generates a solution that aligns closely with the problem space.

Complementing qualitative insights with quantitative data could provide a more comprehensive understanding and give more compelling evidence for proposed methods. Lastly, the present study primarily emphasized human resource management strategies and

did not explore other potential factors influencing competitive advantage, such as market dynamics, technological adoption, or consumer behavior. Notably, integrating these aspects could yield a more holistic perspective on the challenges and opportunities faced by SMEs.

## Declaration

### *Author Contributions*

All authors contributed equally as the main contributors of this paper. All authors read and approved the final paper.

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### *Competing Interest*

The authors declare that they have no conflicts of interest to report regarding the present study.

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